

1        1.        An automated device recordation and registration process for automatically  
2        registering, on a remote computer, an embedded device, comprising:  
3                a feature detection process for detecting feature information associated with a  
4                device to be registered;  
5                a feature transmission process for transmitting said feature information to a  
6                remote computer at a known address using a self-describing computer language; and  
7                a registration process for registering said device by storing said feature  
8                information on said remote computer.

1        3.        The device registration process of claim 1 wherein said known address is a Uniform  
2        Resource Locator (URL).

1        5.        The device registration process of claim 1 wherein said feature information comprises  
2        a device type and a device instance.

1        6.        The device registration process of claim 5 wherein said device type is a model  
2        number and said device instance is a serial number.

1        7.        The device registration process of claim 1 wherein said remote computer includes a  
2        database for storing said feature information.

8. The device registration process of claim 7 including a device registration status process for examining said database to determine if said device was previously registered on said remote computer and initiating said registration process if said device is not registered.

1 9. The device registration process of claim 8 wherein said remote computer resides on a  
2 distributed computing network and said feature transmission process transmits said feature  
3 information to said remote computer via said distributed computing network.

1 10. The device registration process of claim 9 wherein said distributed computing  
2 network is the Internet.

1 11. The device registration process of claim 9 wherein said device is connected to said  
2 distributed computing network via a direct network connection.

1 12. The device registration process of claim 9 wherein said device is connected to said  
2 distributed computing network via a dial-up network connection.

1 13. The device registration process of claim 9 wherein said device is connected to said  
2 distributed computing network via a wireless network connection.

1 14. The device registration process of claim 9 wherein said device includes embedded  
2 software which controls said device's functionality, where said embedded software has a  
3 specific version identifier associated with it.

1 15. The device registration process of claim 14 wherein said database stores a software  
2 update, having a specific version identifier associated with it, for said embedded software of  
3 said device, where said software update is the newest version of embedded software available  
4 for said device.

1 16. The device registration process of claim 15 including a software comparison process  
2 for comparing said version identifier of said software update to said version identifier of said  
3 embedded software of said device to determine if said embedded software of said device  
4 needs to be updated.

1 17. The device registration process of claim 16 including a software update process,  
2 responsive to said software comparison process determining that said embedded software  
3 needs to be updated, for updating said embedded software residing on said device with said  
4 software update.

1 18. The device registration process of claim 7 wherein said feature information includes  
2 system information concerning the location, ownership, and configuration of said device.

1 19. The device registration process of claim 18 including a system information interface  
2 for allowing the owner of said device to configure said system information.

1 20. The device registration process of claim 19 wherein said device includes a HyperText  
2 Transfer Protocol (HTTP) device web server and said system information interface is a  
3 software application residing on said device web server, where the owner of said device can  
4 edit said system information of said device by accessing said system information interface  
5 via a remote web client.

1 21. The device registration process of claim 19 including a system information  
2 transmission process for transmitting said system information to said remote computer using  
3 said self-describing computer language and for storing said system information on said  
4 database of said remote computer.

1 22. The device registration process of claim 21 wherein said system information  
2 transmission process includes a system information comparison process for comparing the  
3 system information on said remote computer to the system information on said device to  
4 determine if said database on said remote computer needs to be updated with said system  
5 information on said device.

1 23. The device registration process of claim 22 wherein said system information  
2 transmission process includes a system information upload process, responsive to said system  
3 information comparison process determining that said system information on said database

needs to be updated, for updating said system information on said database with said system information on said device.

24. The device registration process of claim 7 wherein said device includes a device web client and said remote computer includes a HyperText Transfer Protocol (HTTP) remote web server.

25. The device registration process of claim 24 wherein said remote computer includes an application logic to interface said remote web server and said database.

26. The device registration process of claim 25 wherein said feature transmission process utilizes said device web client to upload said feature information from said device to said remote web server, where said application logic transfers said feature information from said remote web server to said database.

27. The device registration process of claim 7 wherein said device includes a device mail client and said remote computer includes a Simple Mail Transfer Protocol (SMTP) remote mail server.

28. The device registration process of claim 27 wherein said remote computer includes an application logic to interface said remote mail server and said database.

29. The device registration process of claim 28 wherein said feature transmission process utilizes said device mail client to upload said feature information from said device to said remote mail server, where said application logic transfers said feature information from said remote mail server to said database.



1 38. The computer implemented method of claim 36 wherein said device includes  
2 embedded software which controls said device's functionality, where said embedded  
3 software has a specific version identifier associated with it.

1 39. The computer implemented method of claim 38 wherein said database stores a  
2 software update, having a specific version identifier associated with it, for said embedded  
3 software of said device, where said software update is the newest version of embedded  
4 software available for said device.

1 40. The computer implemented method of claim 39 further comprising:  
2 comparing said version identifier of said software update to said version  
3 identifier of said embedded software of said device to determine if said embedded  
4 software of said device needs to be updated.

1 41. The computer implemented method of claim 40 further comprising:  
2 updating said embedded software residing on said device with said software  
3 update if it is determined that said embedded software needs to be updated.

1 42. The computer implemented method of claim 30 wherein said feature information  
2 includes system information concerning the location, ownership, and configuration of said  
3 device.

1 43. The computer implemented method of claim 42 including a system information  
2 interface for allowing the owner of said device to configure said system information.

1 44. The computer implemented method of claim 43 further comprising:  
2 transmitting said system information to said remote computer using said self-  
3 describing computer language; and  
4 storing said system information on said database of said remote computer.

1 45. The computer implemented method of claim 44 further comprising:







- 1     48.     A processor and memory configured to:  
2             detect feature information associated with a device to be registered;  
3             transmit said feature information to a remote computer at a known address  
4     using a self-describing computer language; and  
5             register said device by storing said feature information on said remote  
6     computer.

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